Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

new species, *Notropis muskoka*, is described. This species is of the subgenus Chriope, an ally of *N. cayuga*. *Etheostoma boreale*, described by Jordan from Montreal in 1884, and not since seen, has been rediscovered by Dr. Meek in Gull Lake, near Lake Muskoka. D. S. J.

Function of Vascular Ampullæ in Composite Tunicates. — The colonial blood vessels of the composite tunicates belonging to the family Botryllidæ often show a considerable number of terminal enlargements — the ampullæ. These are found almost anywhere within the colony, but are especially numerous along its edges. They have been regarded without much reason as developing zoöids, an opinion generally abandoned for several more recent views; namely, that they are reservoirs for blood, organs for the excretion of the test matrix, or for respiration. Dr. F. W. Bancroft[1] has shown that they normally execute coördinated pulsations, which continue, with some change in the coördination, after separation from the rest of the colony. The rhythm of the ampullar pulsations is not affected by the reversals of the hearts in the zoöids. The pulsations are very slow, and the contractile tissue seems to be a thin layer of pavement epithelium. Such coördination as the ampullæ show is brought about principally by blood pressure. In an æstivating colony of *Botrylloides gascoi*, the circulation was kept up almost entirely by the ampullæ. They must, therefore, be regarded as organs for the propulsion of the blood. G. H. P.

Sense Cells in the Integument of Worms. — L. Atherton[2] has made a study of the integument of the fresh-water worm Tubifex, with special reference to its nervous structures. The epidermis, beneath which there is no basement membrane, is usually a single layer of cells, produced apparently from the growing zone at the caudal end of the worm. Sensory cells of a spindle shape, or more swollen, occur isolated, in loose groups, or as well-defined clusters; externally they are provided with sensory bristles, and internally they give rise to nerve fibres, which extend to the central nervous organs. Isolated sensory cells are numerous over the caudal end, sparse over the middle trunk region, and numerous again over the anterior part, where they may bear more than a single sensory bristle. Loose

---

[1] Bancroft, F. W. A New Function of the Vascular Ampullæ in the Botryllidæ, *Zool. Anzeiger*, Bd. xxii, pp. 450–462.

[2] Atherton, L. The Epidermis of Tubifex rivulorum Lamarck, with Especial Reference to its Nervous Structures, *Anat. Anzeiger*, Bd. xvi, pp. 497–509.

groups of sensory cells are found on all regions of the body except the anterior end. Well-defined clusters are found only on the prostomium and first few segments.

G. H. P.

The Eyes of the Polyphemidæ. — The eyes of the family of minute crustaceans, the Polyphemidæ, have been the subject of careful investigation by Dr. O. Miltz.[1] The eyes are compound, and each retinal element or ommatidium is composed of two distal cells, forming part of the corneal hypodermis, of five cells forming the cone, of two supporting cells, and of a group of five retinular cells. The nerve fibres pass centrally from the retinular cells. The development, physiology, and biological significance of the eyes are considered.

G. H. P.

Zoölogical Notes. — An Uncinaria from a panther that died in the Königsberg Zoo has furnished Cohn (*Arch. de Parasitol.*, Vol. II, No. 1, pp. 5–22, 1899) with some important data on the life history of these forms and the injuries they produce. An introductory discussion clears up the synonymy and shows that three good species occur in the Felidæ. The form studied, *U. perniciosa*, was found abundantly in small, dark-colored nodules in the wall of the small intestine, each nodule containing a number of individuals, among which the females were more numerous. A histological study of these nodules showed that they always lay in the submucosa, which was enormously thickened at that point at the expense of the circular muscle layer, and that each opened into the intestinal lumen by a small pore at which the epithelium was inturned. Larvæ much like those of *U. duodenalis*, recently described by Looss, were numerous in the intestinal mucus, and a single older form was met between the villi. In the nodules, on the other hand, only sexually mature individuals were found, together with the eggs. Cohn outlines the life history as follows: There is no secondary host, but the larvæ are brought directly into the intestine of the primary host, and when they have reached a certain period of growth they invade the wall of the canal and cause there the growth of nodules. The results of other investigators are interpreted in the light of this work which conforms, moreover, to the conjecture of Railliet in the case of *Sclerostoma equinum*.

---

[1] Miltz, O. Das Auge der Polyphemiden, *Zoologica*, Bd. xi (1899), Lieferung 4, pp. 1–60, Taf. I–IV.